GENERATOR TYPE ECO 3-3LN/4

Document : **DS102A/1**
issue 001 date 27/09/2007

Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	15	15	15	12	16	18	18	18
		kW	12	12	12	9,6	12,8	14,4	14,4	14,4
Rated power class F		kVA	14	14	14	10,5	13	15	16,5	16,5
		kW	11,2	11,2	11,2	8,4	10,4	12	13,2	13,2
Regulation with		SR7/2	±1,5 % with any power factor and speed variations between -5% +30%							
Insulation class			H							
Execution			Brushless							
Stator winding			6 ends							
Rotor			without damping cage							
Efficiencies class H	4/4	%	86,2	86,3	86	85,8	87,5	88	88,1	88,2
(see graph. for details)	3/4	%	86,6	86,9	86,8	86,5	87,8	88	88,2	88,4
	2/4	%	85,3	85,4	85,4	85,1	86,1	86,2	86,3	86,4
	1/4	%	81,8	81,8	81,6	81,1	82,6	82,4	82,5	82,8
Reactances (f. l.cl. F)	Xd	%	155,1	140	130,1	92,6	166,5	166,6	152,4	140
	Xd'	%	15,73	14,2	13,19	9,39	16,89	16,90	15,46	14,2
	Xd"	%	10,86	9,8	9,10	6,48	11,65	11,66	10,67	9,8
	Xq	%	86,4	78	72,5	51,6	92,8	92,8	84,9	78
	Xq'	%	86,4	78	72,5	51,6	92,8	92,8	84,9	78
	Xq"	%	57,6	52	48,3	34,4	61,8	61,9	56,6	52
	X_2	%	18,95	17,1	15,89	11,31	20,33	20,35	18,62	17,1
	X_0	%	5,98	5,4	5,02	3,57	6,42	6,43	5,88	5,4
Short Circuit Ratio	Kcc		0,80	1,1	1,13	1,50	0,67	0,75	0,80	1,1
Time Constants	Td'	sec.	0,042							
	Td"	sec.	0,0105							
	Tdo'	sec.	0,84							
	Tα	sec.	0,0112							
Short Circuit Current Capacity		%	>300				>320			
Excitation at no load		Amp.	0,3	0,35	0,4	0,47	0,22	0,25	0,3	0,32
Excitation at full load		Amp.	1,1	1,2	1,3	1,4	0,95	1	1,1	1,15
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,628							
Rotor Winding Resistance (20°C)		Ω	10,884							
Exciter Resistance (20 °C)		Ω	Rotor : 1,453				Stator : 15,71			
Heat dissipation at f.l.cl.H		W	1921	1905	1953	1589	1829	1964	1945	1927
Telephone Interference			THF < 2%				TIF < 45			
Radio interference			EN60034-1, VDE 0875K. For others standards apply to factory.							
Waveform Distors.(THD) at f. load		LL/LN %	2,2 / 2,0							
Waveform Distors.(THD) at no load		LL/LN %	2,8 / 2,7							
Mechanical characteristics										
Protection			IP 23 (other protection on request)							
DE bearing			6308-2RS							
NDE bearing			6305-2RS							
Weight of wound stator assembly		kg	29,5							
Weight of wound rotor assembly		kg	16							
Weight of complete generator		kg	96,0							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	3							
Cooling air requirement		m^3/min	3				3,5			
Inertia Constant (H)		sec.	0,098				0,116			
Noise level at 1m/7m		dB(A)	72 / 58				78 / 60			

All technical data are to be considered as a reference and they can be modified without any notice

GENERATOR TYPE ECO 3-3LN/4

Document : **DS102A/2**

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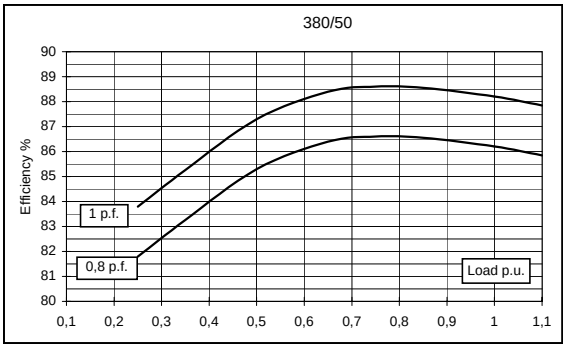
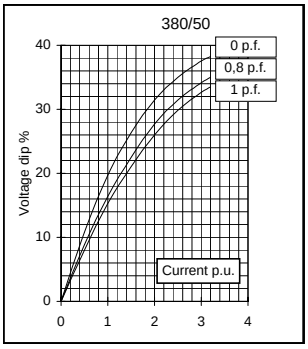
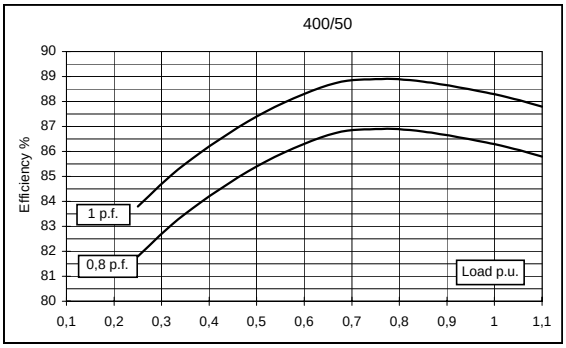
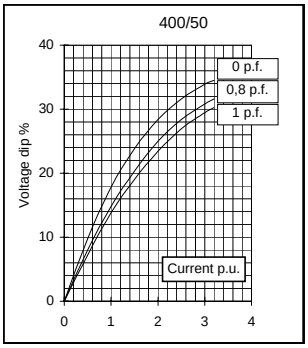
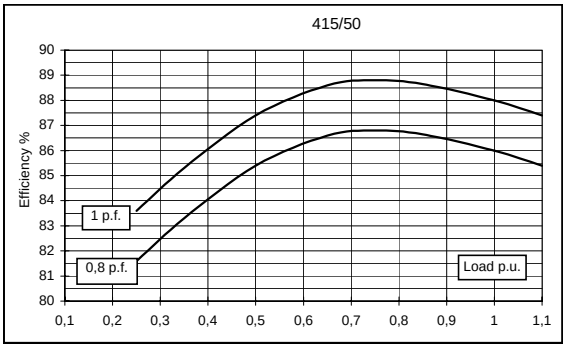
50 Hz

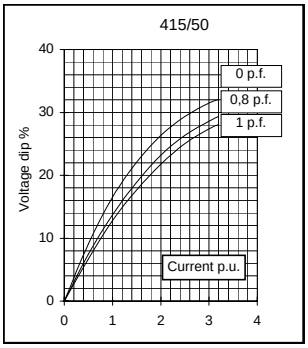


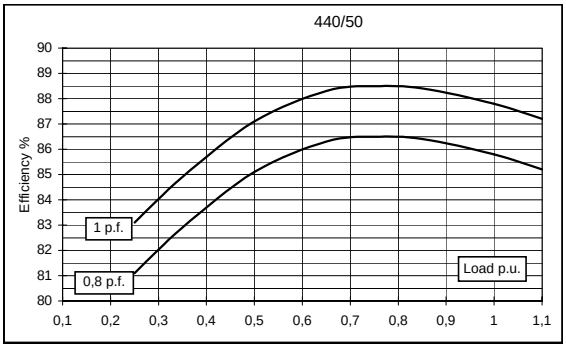


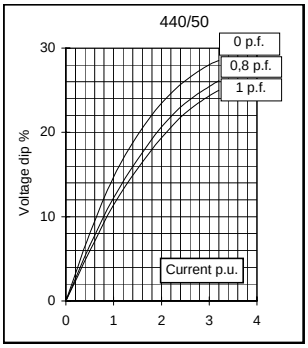


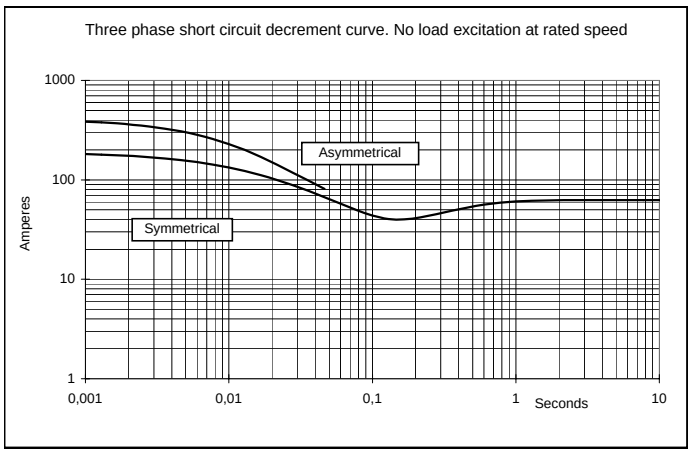










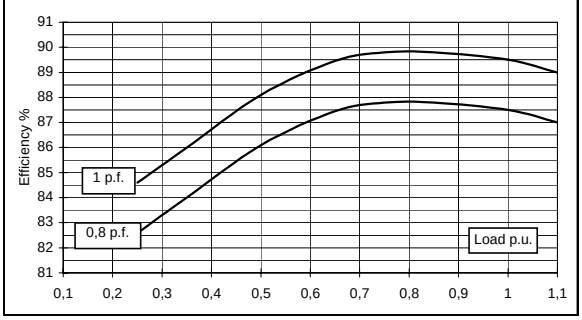


GENERATOR TYPE ECO 3-3LN/4

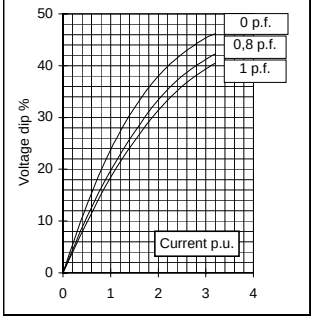
Document : **DS102A/3**
issue 000 date : 25/07/07

60 Hz

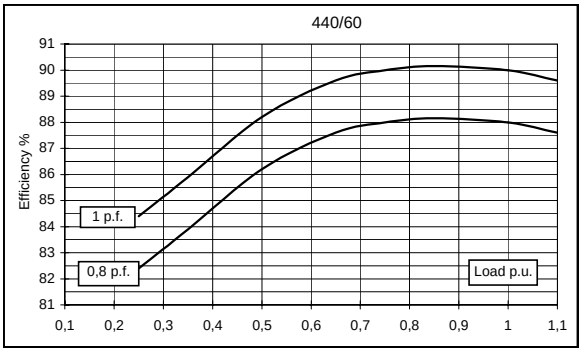
415/60



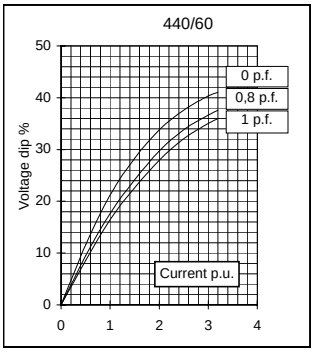
415/60



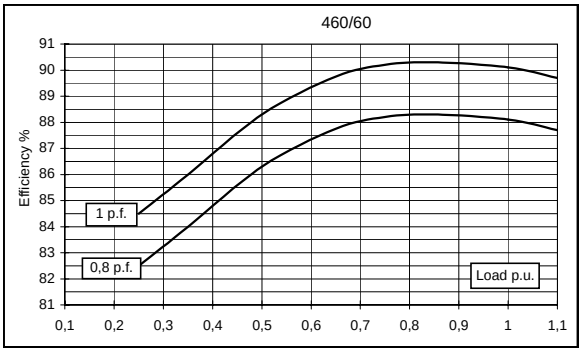
440/60



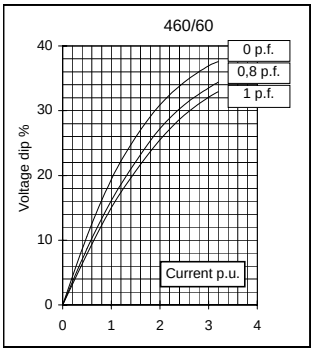
440/60



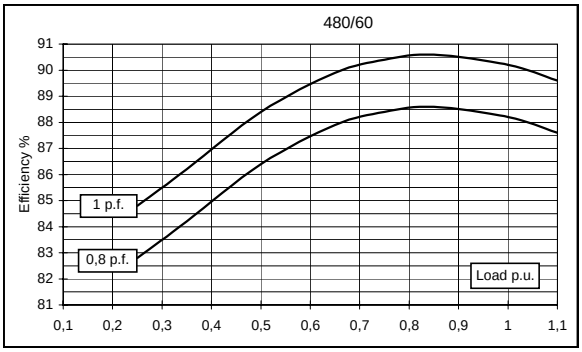
460/60



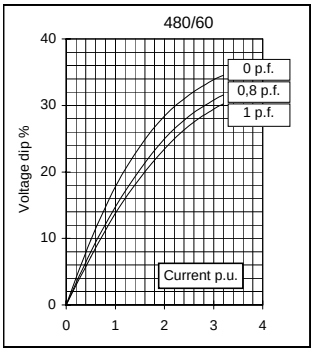
460/60



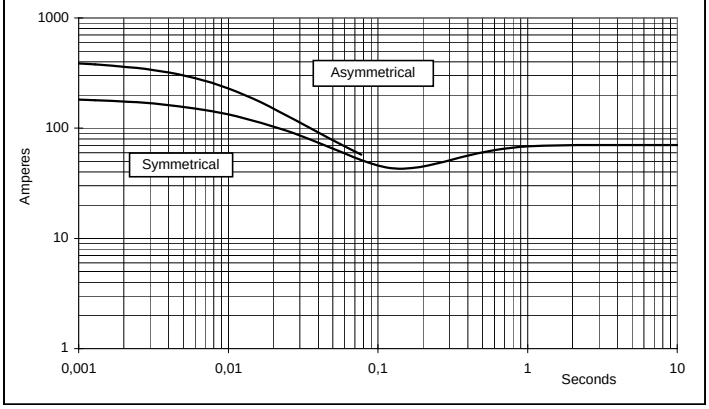
480/60



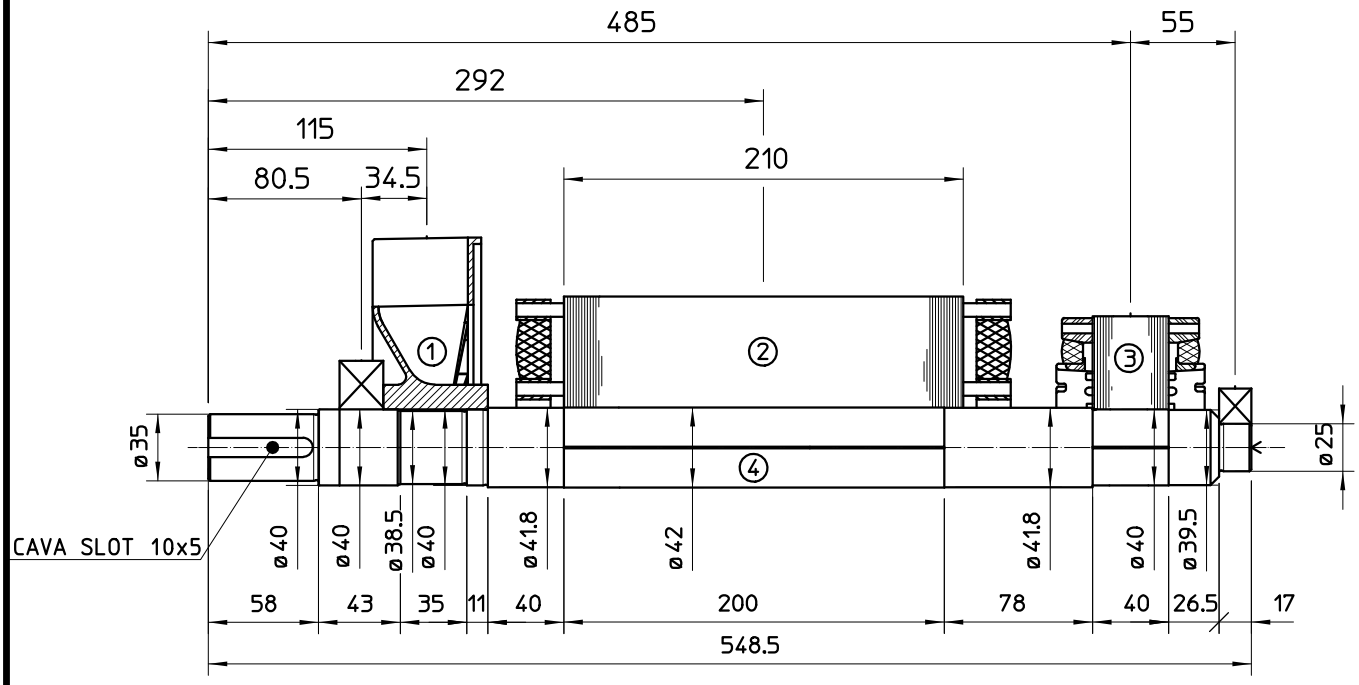
480/60



Three phase short circuit decrement curve. No load excitation at rated speed

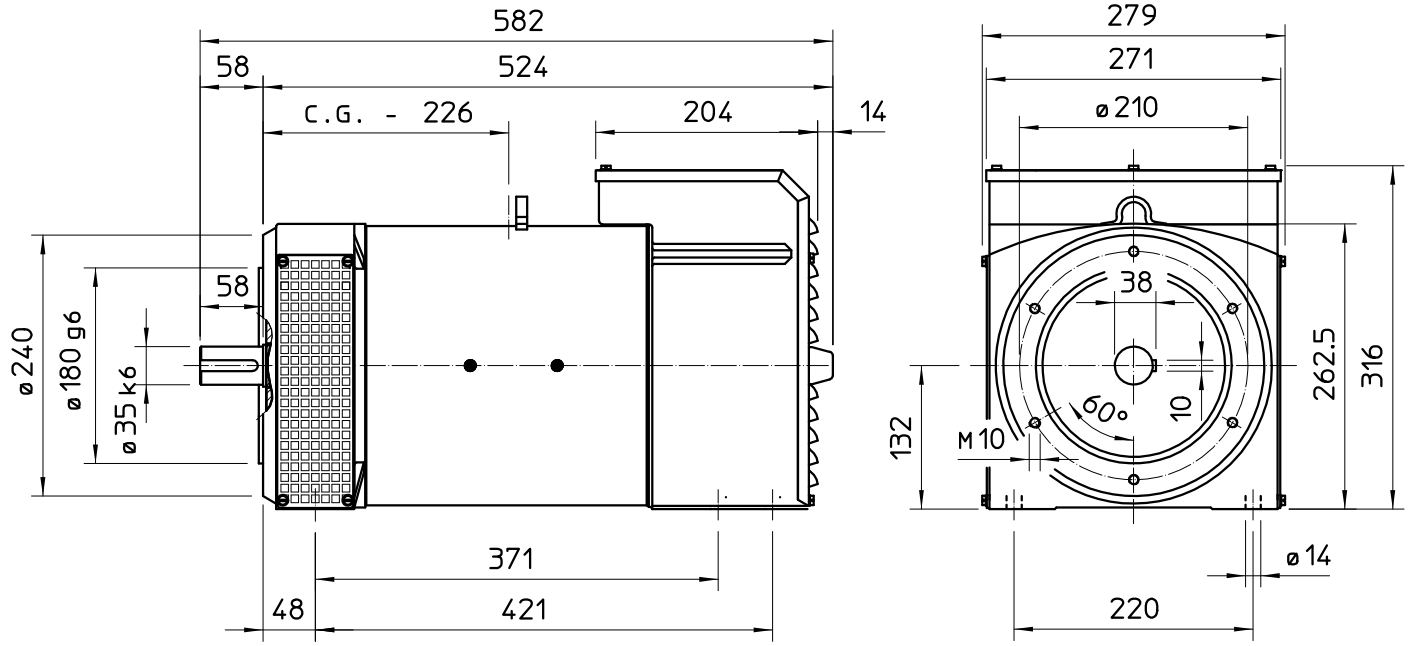


TWO BEARING MOMENTS OF INERTIA



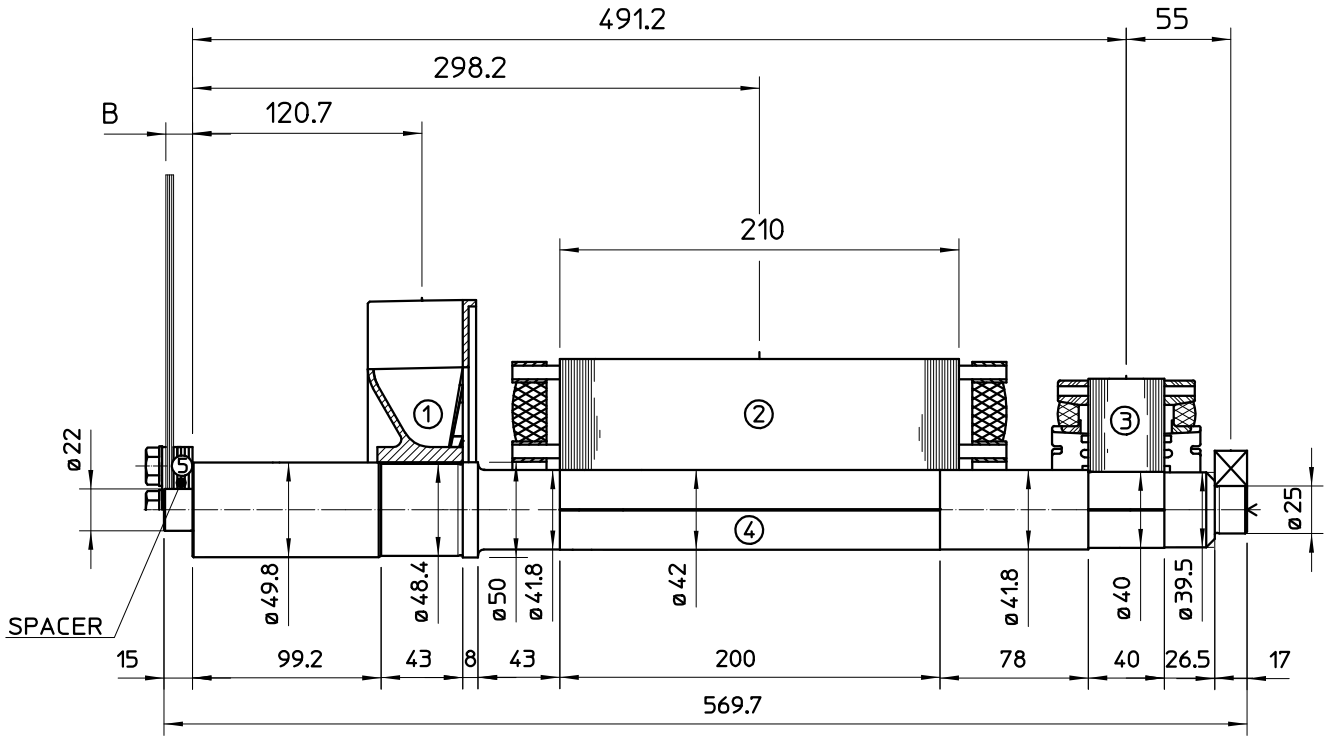
	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	0.93	0.0036
2	MAIN ROTOR	22.45	0.079
3	EX ROTOR	4.12	0.011
4	SHAFT	5.5	0.0011
6	TOTAL	33	0.0947

TWO BEARING DIMENSIONS



C.G. = GRAVITY CENTER

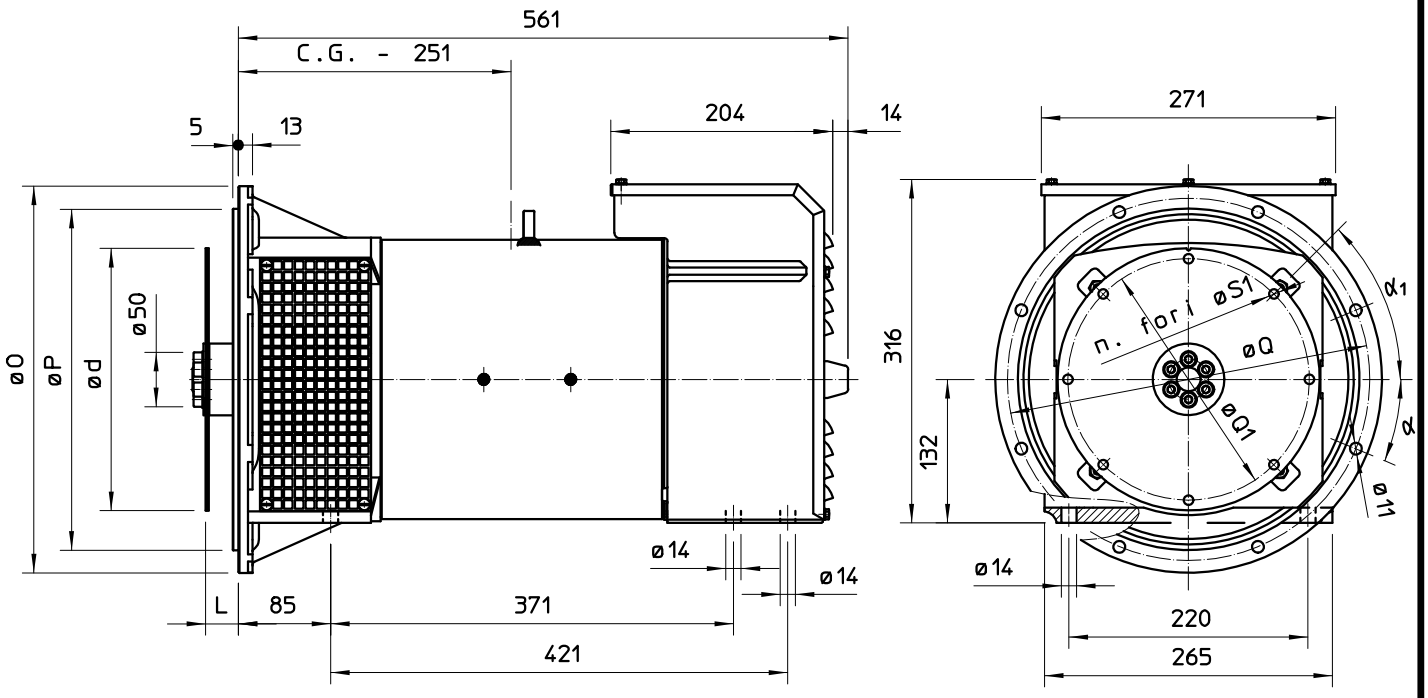
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	0.82	0.0032
2	MAIN ROTOR	22.45	0.079
3	EX ROTOR	4.12	0.011
4	SHAFT	6.3	0.0013
6	TOTAL	33.69	0.0945

SAE N.	5	SHAFT COUPLING FLEX PLATE	
	B(mm)	WEIGHT kg	J kgm²
6 1/2	4	1.14	0.0067
7 1/2	4	1.42	0.0103
8	35.6	1.97	0.0171
10	27.6	2.59	0.0319
11 1/2	14	3.1	0.0481

SINGLE BEARING DIMENSIONS



FLANGIA FLANGE BRIDE FLANSCHE BRIDAS	SAE N.	O	P	Q	n. fori	α
	6	308	266.7	285.75	8	22°30'
	5	356	314.3	333.4	8	22°30'
	4	403	362	381	12	15°
	3	451	409.6	428.6	12	15°

GIUNTI A DISCO COUPLING DISC PLATEX DISQUE DE MONOPALIER SCHEIBENKUPPLUNG JUNTAS A DISCOS						
SAE N.	L	d	Q1	n. fori	S1	α1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2	30.2	241.3	222.25	8	9	45°
8	62	263.52	244.47	6	11	60°
10	53.8	314.32	295.27	8	11	45°
11 1/2	39.6	352.42	333.37	8	11	45°

C.G. = GRAVITY CENTER